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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,659	04/04/2002	Atsunobu Sakamoto	0112895-005	6654

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EXAMINER	
RALIS, STEPHEN J	

ART UNIT	PAPER NUMBER
3742	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/980,659	SAKAMOTO ET AL.	
	Examiner	Art Unit	
	Stephen J. Ralis	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 March 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant is notified of receipt and acknowledgement, on 13 March 2006, of the amendments to Application No. 09/980,659, filed on 04 April 2004.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the non-symmetrical electrodes must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to ***distinctly*** show and label the electrodes appropriately as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 25-28 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (U.S. Patent No. 4,790,901) in view of Simpson (U.S. Patent No. 1,975,410) and in further view of Shimada (U.S. Patent No. 5,916,467).

Kettelhoit et al. (US 4,790,901) disclose a laminator (being a heat-sealing apparatus; column 3, lines 4-20; Figures 2, 3) comprising a press mechanism (press tool 1) and a unitary planar zigzag electric heater (heating element 8a) with widened electrode portions (current connection webs/pieces 23, 24) and narrower heating portion (individual conducting paths 14; see column 4, lines 59-68; column 5, lines 1-25). As noted in column 5, lines 13-16, the serpentine path is optimal for heat sealing purposes "because very small optimal intervals are provided between individual current

conductive paths 14." (emphasis added.) Note the thin gaps (separating gaps 15) in Figure 2. Such a structure inherently generates substantially all of the heat in the plane of the heater to affect a continuous heat seal on the workpiece. Kettelhoit et al. further disclose heating element 8a placed on metallic member of block 4. When force is applied (as shown in Figure 3; column 3, lines 12-14) between the blocks a product is heated sealed together, thereby inherently defining a plane into Figure 3 and the dissipation of heat would be perpendicular to that plane or into it accordingly. Furthermore, Kettelhoit et al. disclose the zigzag unitary heating pattern being interrupted immediately before the electrode portion at both sides (zigzag portion 22 ends and current connection webs/pieces 23, 24 are placed on the side, defining an immediate interruption before the electrode; see Figure 2) and restored to the original width of the electrode portions.

The claims differ from Kettelhoit et al. in calling for the electrode portions being non-symmetrical with respect to the longitudinal axis of the heating wire; and the upper electrode portion of the heating wire being longer than the lower electrode portion of the same heating wire.

Simpson teaches that asymmetrical electrode portions in electric heaters are well known in the art (providing electrode portions for a serpentine electric heater 25 with unequally sized electrode portions). Compare the left electrode portion with the right electrode portion in Fig. 4 of Simpson. Such an arrangement produces a non-uniform heating profile along the heater thus compensating for temperature non-uniformities during operation (page 2, lines 26-48). It would have been obvious to one of ordinary

skill in the art at the time of the invention was made to modify the uniform electrode portions of the Kettelhoit et al. heat sealer with the unequally sized electrode portions of the Simpson electric heater to produce a non-uniform heating profile along the heater thus compensating for temperature non-uniformities during operation.

However, if Applicant disagrees with the Examiners position that the zigzag unitary heating pattern is interrupted immediately before the electrode portion at both sides and restored to the original width of the electrode portions, Shimada teaches that a zigzag unitary heating pattern may be interrupted immediately before the electrode portion at both sides and restored to the original width of the electrode portions (see Figures 11, 12) so as to provide radially extended segments in the heating pattern (column 6, lines 27-34) to increase the potential of having a constant resistance value and heat generation over the entire heating pattern (column 5, lines 38-46), thereby reducing manufacturing costs and increasing manufacturing yield. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the zigzag pattern of Kettelhoit et al. with the electrode structure of Shimada to increase the potential of having a constant resistance value and heat generation over the entire heating pattern, thereby reducing manufacturing costs and increasing manufacturing yield.

7. Claims 29 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (U.S. Patent No. 4,790,901) in view of Simpson (U.S. Patent No.

1,975,410) as applied to claims 27 and 32 above, and further in view of Langer (U.S. Patent No. 2.509.439) and Van Denend (U.S. Patent No. 5,155,798).

The Kettelhoit-Simpson impulse heater and heating wire combination discloses all of the limitations except for the heating wire being fixed while expanded on the press mechanism.

Langer teaches a heat sealing apparatus comprising a heating wire (heater element 24 is a narrow strip of thin metal; column 3, lines 72-75) being mounted on surface member 10 under moderate tension. Van Denend teaches a heating element being mounted under slight tension to allow the general shape and position of the element to be maintained throughout the entire temperature range (column 2, lines 28-32; column 3, lines 20-26), thereby increasing the operational life of the heating wire. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heating wire of the Kettelhoit-Simpson impulse heater and heating wire combination with the pretensioning combination teachings of Langer and VanDenend to allow the general shape and position of the element to be maintained throughout the entire temperature range, thereby increasing the operational life of the heating wire.

Regarding the first two lines of claims 29 and 34 (describing how the heating wire is fixed, i.e. while expanded), the limitation merely recites a product by process limitation. It is well settled that reciting how a product is made does not further limit the structure of the product itself. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted.)

Response to Arguments

8. Examiner accepts amendments to Drawings, Specification and Claims and respectfully withdraws the previous Non-Final Office Action objections, accordingly.

9. With respect to the argument that Kettelhoit discloses only a laminator, not a heat sealer, Kettelhoit et al. disclose a laminating device producing a product that is to be welded or heat-sealed together (column 3, lines 4-20). Therefore, the Examiner maintains the position that Kettelhoit et al. does disclose an apparatus that is a heat sealer.

10. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Kettelhoit does not seal anything between sheets (such as plastic bags) and does not seal by a narrow sealed line) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

11. Applicant's arguments with respect to claims 25-34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen J Ralis
Examiner
Art Unit 3742

SJR
June 5, 2006

Robin O. Evans
Supervisory Patent Examiner
6/9/06